



KVM SWITCH 
User's Guide



Model:
MK41OSD
MK61OSD
MK81OSD
MK161OSD

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RESTORE

Features

KeyShare KVM SWITCH series are devices that switch and control multiple PCs or file servers with one keyboard, one mouse and one monitor. They are available in 4 ports, 6 ports 8 ports and 16 ports.

ON SCREEN CONFIGURATION AND DISPLAY

KVM SWITCH display a variety of system-related information on the monitor. Set the configuration information using commands entered from keyboard.

USER DEFINE SERVER NAME

Stored and restored each PC status when switching among PCs. Use of non-volatile RAM to stores configuration information. All information is saved until you decide to change, even if the unit is power off.

BUS CHAIN

All units come with input/output bus chain ports. All units can be mixed chain to gather up to 16 levels. KVM SWITCH can control up to 256 PCs use one keyboard, one mouse and one monitor. The bus chain cable use the standard parallel printer cable with 25 pins male to male connectors.

EXAMPLE: To access 12 PCs has three combinations. One is to use two 6 ports KVM SWITCH, another is to use one 4 ports and one 8 ports KVM SWITCH, the other is to use three 4 ports KVM SWITCH.

RACK-MOUNT

Packaged in space-efficient case to save space in desktop. 4 port, 6 port, 8 ports and 16 ports come with rack-mounted hardware. The 4 ports, 6 ports and 8 ports KVM SWITCH are 1.5U height (2.36 inch), and the 16 ports KVM SWITCH is 2U height (3.14 inch).

STANDARD CABLE

KVM SWITCH is compatible with all-major computer and peripheral. Work with standard PC extension cables. No hidden cable cost. KVM SWITCH supports PS/2, serial mouse (the 16 ports KVM SWITCH supports combo mouse) and PS/2 keyboard.

PASS THROUGH OR EMULATE

Employs pass through or emulate technology. The selected PC is communicating directly with keyboard, monitor and mouse. This technology eliminates the problem of no standard IBM compatible PC.

DEDICATED MICROPROCESSOR

Each channel contains a microprocessor emulation to intelligently manage the boot up process for all of your attached PCs boot up transparently and simultaneously.

PROGRAMMABLE SCANNING

Built-in channel Scanning feature allows you to monitor the entire computer in the system sequentially and automatically. Programmable scanning allows you to selecting which computer to include and specify the duration of the connection.

EASE OF USE

Select active channel is accomplished by typing a simple keyboard command sequence or from push button at front panel. The KVM SWITCH works independently of the computer operating system.

Installation

1. Ensure that all PCs are powered off before connect or disconnect in the cables. Most PCs do not permit online disconnecting and reconnecting their keyboards and mice during operation.
2. Connect all PCs to KVM SWITCH using standard PC extension cables. In cascading KVM SWITCH, please use the existing bus chain cable to connect them.
 - For video display using 15-pin male to male video extension cable connects male end to PC VGA card and the other male end connects to KVM SWITCH.
 - KVM SWITCH supports both PS/2 and AT/PC keyboard. For PC with PS/2 keyboard a 6 pin mini DIN PC keyboard extension cable can be used, for PC with PC/AT keyboard a 5-pin DIN PC keyboard extension cable can be used. Connect only one keyboard extension cable.
 - 4, 6, 8 ports KVM SWITCH supports both PS/2 and serial mouse. For PC with PS/2 mouse using 6-pin mini DIN PS/2 mouse extension cable connect one end to KVM SWITCH and the other end to PC. For PC with MS mouse interface has two type of cables. One is 9 pin male to female serial port extension cable and the other is 9 pin male to 25 pin female male serial port cable. Connect 9-pin male end to KVM SWITCH end and the other end to PC COM1 (or COM2 depending on your system). Connect only one mouse extension cable.
 - 16 ports KVM SWITCH supports combo mouse. For PC with PS/2 mouse using 6-pin mini DIN PS/2 mouse extension cable connect one end to KVM SWITCH and the other and to PC. For PC with MS serial mouse interface, a 6-pin mini DIN male PS/2 mouse to 9 pin female cable is needed. Connect 6 pin male to KVM SWITCH end and the other end to PC COM1 (or COM2 depending on your system).
3. Connecting one keyboard, one monitor and one mouse to KVM SWITCH master bank.
4. Set address switch of master bank to all zero.
5. To connect the power plug to the power jack of KVM SWITCH.

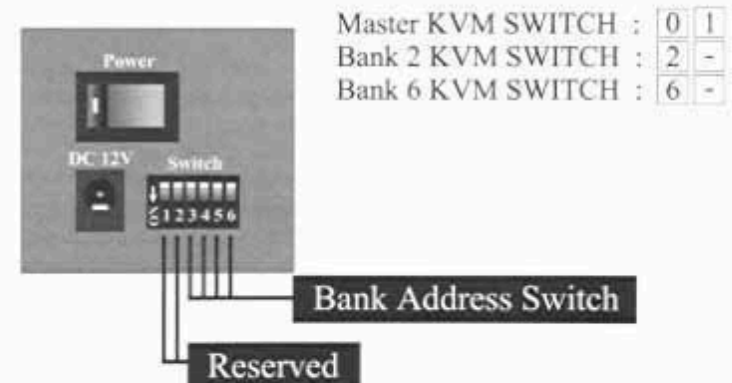
6. To turn on power to KVM SWITCH and the two seven segment LEDs of master bank will display 0 1.
7. To power on all PC systems.

Note: When all PC systems are under booting process, please don't use the push button at the panel or keyboard of KVM SWITCH. After finishing the booting process, you can switch the port go through push button of panel or keyboard.

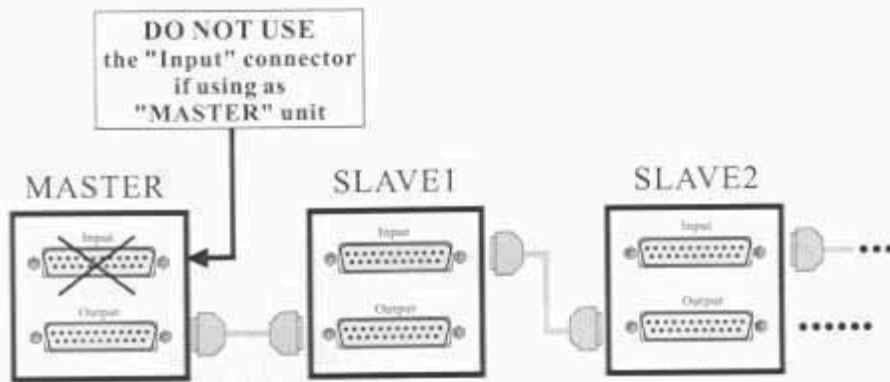
Bus-Chain, DIP-Switch

1. KVM SWITCH can be daisy chain using a 25-pin male to male standard straight through parallel cables. Connect one end to the daisy chain port on one KVM switch and connect the other end to the daisy chain port of another KVM switch. Please refer to section 3.
2. The one, which connects keyboard, mouse and monitor, is master bank. The others are slave banks. Each bank must have a unique bank address. The master bank address is zeroing, all four switch down (0000).

EXAMPLE: If you use three KVM SWITCHES with daisy chain function, master KVM SWITCH's bank address must be set to 0000 (Dip Switch 3-6), another KVM SWITCH (slave) may be set to 0100 (Dip Switch 3-6, bank 2) and the other KVM SWITCH (slave) may be set to 0110 (Dip Switch 3-6, bank 6). After you power on these three KVM SWITCHES, you will find BANK LED and CHANNEL LED display are as follows:



3. Please refer to the connection diagram below.



3.1 From your "MASTER" unit, please connect the "Output" port to the "Output" port on your "SLAVE" unit using the enclosed DB-25 cable.

3.2 From your "SLAVE" unit, please connect the "Input" port to the "Output" port on your second "SLAVE" unit using the enclosed DB-25 cable.

BANK ADDRESS

Dip Switch Number					
3	4	5	6		
0	0	0	0	BANK 0	master
1	0	0	0	BANK 1	slave
0	1	0	0	BANK 2	slave
1	1	0	0	BANK 3	slave
0	0	1	0	BANK 4	slave
1	0	1	0	BANK 5	slave
0	1	1	0	BANK 6	slave
1	1	1	0	BANK 7	slave
0	0	0	1	BANK 8	slave
1	0	0	1	BANK 9	slave
0	1	0	1	BANK A	slave
1	1	0	1	BANK B	slave
0	0	1	1	BANK C	slave
1	0	1	1	BANK D	slave
0	1	1	1	BANK E	slave
1	1	1	1	BANK F	slave

Note: "0" means "ON" , "1" means "OFF"

On Screen Display

ACTIVATE ON SCREEN DISPLAY

- ★ To active OSD function, press and release the SCROLL LOCK key twice follows by space key within half second. The OSD windows will display.

BANK SELECTION

1. The first line will display current selected bank's BANK NUMBER.
2. Using "PageUp" key and "PageDown" key to switch amount the banks and the bank name will change. PageUp key will increase the BANK NUMBER. PageDown key will decrease the BANK NUMBER.
3. Following the BANK NUMBER is CHANNEL NAME.

CHANNEL SELECTION

1. Following the BANK NUMBER is the entire CHANNEL NAME. Depending on the model of the BANK, there is 4, 6, 8 or 16 CHANNEL NAME.
2. Character [Y] following the channel name indicates the PC is power on.
3. Using up and down cursor key to switch amount channel.
- 4.a Press [Enter] to make channel selection.
OR
- 4.b Press [Esc] to abort the channel selection.

OSD MAIN WINDOWS

Selected BANK	1.CHANNEL1 Y 2.SALES Y 3.MASTER Y 4.SERVER Y 5.MANAGER Y	↑:SELECT [Ins]:RENAME [Enter]:COMPLETE [Esc]:EXIT
Selected CHANNEL	6.CHANNEL6 7.CHANNEL7 8.CHANNEL8	
Y indicates PC power on	[Tab]:FUNCTION ◀:PgUp	▶:PgDn

OSD FUNCTION WINDOWS

FUNCTION				
SCAN TIME:	<input checked="" type="checkbox"/> 7Sec	<input type="checkbox"/> 15Sec	<input type="checkbox"/> 30Sec	<input type="checkbox"/> 60Sec
DISPLAY TIME:	<input checked="" type="checkbox"/> 7Sec	<input type="checkbox"/> 15Sec	<input type="checkbox"/> 30Sec	<input type="checkbox"/> 60Sec

SCAN TIME: Interval of scan mode for each channel.

DISPLAY TIME: OSD windows or CHANNEL name stay on the screen.

USER DEFINE CHANNEL NAME

1. Press Insert key goes into edit mode.
2. Using left/right cursor key to point to the word then edit it, the new word will be saved in non-volatile RAM. All channel names is saved until you decide to change, even if the unit is power off.
3. The CHANNEL NAME can be [A], [Z] and [0], [9] Maximum 8 Characters long.

FUNCTION WINDOWS

1. Press [Tab] key at MAIN WINDOWS, activate the FUNCTION WINDOWS.
2. SCAN TIME is the interval of scanning.
3. DISPLAY TIME is the duration of ON SCREEN DISPLAY or CHANNEL NAME.

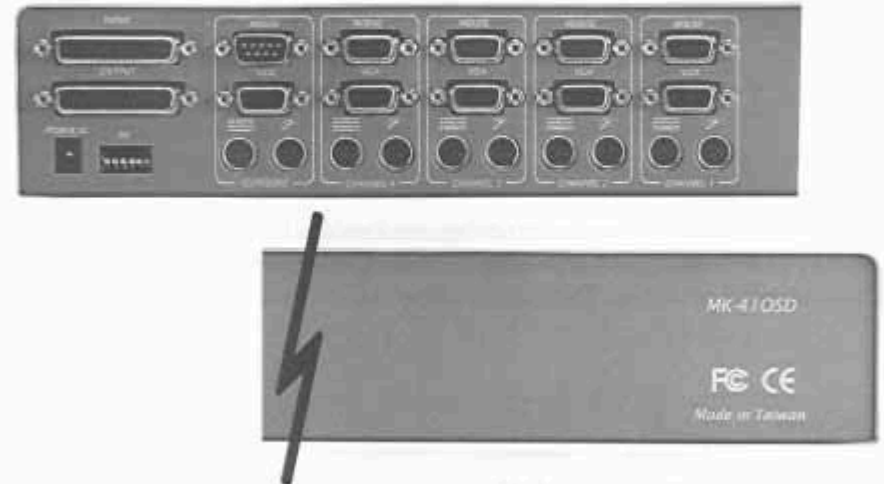
SCAN TIME and DISPLAY TIME SETTING

1. Using Up and Down cursor key to select the function to modified.
2. For SCAN TIME using left and right cursor key to select the scan time.
3. For DISPLAY TIME using left and right cursor key to select the show time.
4. Press [ESC] to save and exit.

CHANNEL NAME

1. Press Scroll lock key twice follows by SPACE key to show the selected channel's CHANNEL NAME at the upper left corner of the screen at the duration set by DISPLAY TIME.
2. The default duration of showing the CHANNEL NAME is 7 seconds.
3. Press Scroll lock key twice follows by [Del] key to clear the CHANNEL NAME, SCAN TIME and DISPLAY TIME immediately.

Panel



(Model No. MK-41OSD)

C1, C2, . LED INDICATORS

The light turns on when that channel is selected. In any case only one port LED indicators will be lit. If the selected port is not connected to PC or PC is turned off, the selected port LED will flash.

BANK LED/CHANNEL LED

For master bank, bank LED indicates which bank is selected. Channel LED indicates which PC is selected. For slave banks, bank LED indicates bank address.

EXAMPLE: There are three banks KVM SWITCH and the bank numbers are 0, 1, 2. Master bank LED will display 0 1 and Slave bank 1, 2 will display 1 -, 2 - individually, after powering on the system.

RESET BUTTON

Press and release both buttons will reset the KVM SWITCH.

CHANNEL BUTTON

Press and release the button will change the selected PC.

BANK/SCAN BUTTON

Press and release the button will change the selected bank or got into scan mode after the last bank.

EXAMPLE: If there are four KVM SWITCHES with bus chain (Bank 0, 1, 2, 3), to switch banks in order are as follows:

→BANK 0 > BANK 1 > BANK 2 > BANK 3 > SCAN MODE←

Note: Pressing the bank button completing one cycle will put the KVM SWITCH in scan mode. If using only one KVM SWITCH, the BANK function of BANK/SCAN button is ignored.

Hot Key

ACTIVATE (Scroll Lock Twice)

To enter hot key mode, press and release the SCROLL LOCK key twice within half second. The buzzer will turn on indicating that KVM SWITCH is in Hot Key Mode. Keyboard input will not reach PCs during Hot Key Mode.

Example: If you would like to select the third PC which connected to KVM SWITCH, please follow the hot key procedures:

1. Press the SCROLL LOCK key twice.
2. Press the number keys "0", "3".

BANK SWITCH (PageUp, PageDown)

Using PageUp to select the previous bank, PageDown to select the next bank.



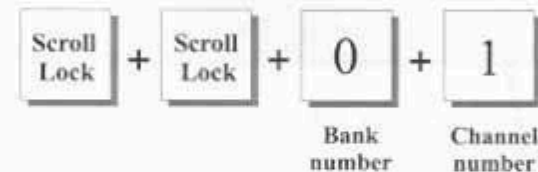
CHANNEL SWITCH (Up-Arrow, Down-Arrow)

Using Up-Arrow to selected the previous channel, Down-Arrow to select the next channel.



GO TO CHANNEL (bank number, channel number)

Using the numeric key (0-9) at top of keyboard and (A-F) key to select the bank and channel. Bank selection first than Channel selection.



SCAN MODE (0, 0)

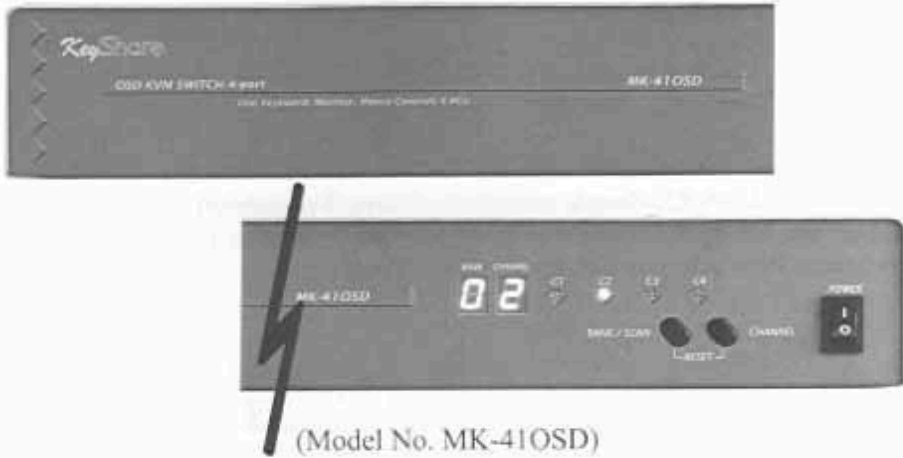
KVM SWITCH can automatically switches from one PC to another at an interval set by user. To enter scan mode either by press bank/scan button after the last bank or by hot key (0, 0).



OSD MAIN WINDOWS (space bar)

To active OSD function, press and release the SCROLL LOCK key twice follows by space key within half second. The OSD windows will display.

Cables



Channel Cable for each PC one keyboard, one mouse and one monitor extension cable.

Keyboard

- PC/AT - 5 pin DIN male to PS/2 6 pin - min DIN male.



- PS/2 - 6 pin mini DIN male to male.



Mouse

- Serial mouse - 9pin male to female.



- PS/2 mouse - 6 pin mini DIN male to male.



VGA

- 15 pin male to male.



DAISY-CHAIN CABLE

- A standard parallel DB25 male to male cable (all 25 pin connected).



Troubleshooting

★ Do not press button during PCs' boot up process.

Note: Before you proceed, verify that the keyboard, mouse and monitor are compatible with all your PCs by connecting them directly to your PCs. Maybe the problem is not necessarily with KVM SWITCH. Ensure all cables are correctly connected and all line within the cable is connected.

1. Keyboard Error or Mouse Error during the power up of PC. Short-term solution to this problem is switch to that channel by channel button, make sure that channel is selected and reset the PC, using KVM SWITCH pass through technology let keyboard and mouse directly communicates with that PC. The long-term solution is change that PC to the default channel (bank 0 channel 1) let it communicates with keyboard, monitor and mouse directly when power up.
2. KVM SWITCH got lock up (unable to input keystrokes to any PC). The most likely cause of the problem will be either a voltage spike (increase) or a brown out (decrease) in any one PC. This will cause the microprocessor of KVM SWITCH to malfunction. Restart the whole system if necessary. KVM SWITCH supports keyboard standard scan code 2. Some keyboard and PC has a special interface circuit that is different from standard IBM PC/AT or PS/2. Changing the keyboard to standard IBM PC/AT or IBM PS/2 keyboard is recommended.

3. PS/2 keyboard and AT-style keyboard:
For PC with PS2 keyboards a 6-pin keyboard extension cable is required, for PC with AT-style keyboard a 5-pin to 6-pin converter is required. Only one keyboard is allowed to KVM SWITCH.
4. PS/2 mouse and serial mouse:
 - KVM switch supports both PS/2 mouse and serial mouse, but KVM switch only supports PS/2 mouse at the console side to MS mouse at the PC side conversion.
 - For Internet or NET mouse, there is no standard protocol exists in this kind mouse. KVM switch only supports Microsoft intelli internet mouse at console side. The other brand Internet or NET mouse might be initialized like two key standard mouse function, when you apply it to KVM switch console side.
5. Video Displays: DDC
DDC (Display Data Channel) is a new VESA standard that allows software to control computer graphics monitors. It transfers monitor characteristics to the graphics subsystem for optimum use and configuration of display. Also and provides a bi-directional communication channel between the monitor and host computer. There are three levels of display data channel DDC1, DDC2B and DDC2AB. KVM SWITCH pass through all DDC signals. Make sure all your PCs VGA card as well as your monitor support sample level of DDC. When your installation mix level of DDC or NO-DDC VGA card in your system and use a DDC monitor, it might have some VGA display problems. The DDC monitor can only be set to lower level of DDC mode by power down the monitor.

Specifications

Model No:	410SD	610SD	810SD	1610SD
Computer connections	4	6	8	16
Port LEDs	4	6	8	16
Bank 7-segment-LED	1	1	1	1
Port 7-segment-LED	1	1	1	1
Connectors:				
Keyboard	6-pin mini DIN			
Mouse	9-pin D type / 6-pin mini DIN		6-pin mini DIN (combo mouse)	
Monitor	15-pin HDB type			
Cascade	D-SUB 25			
Cascade port	1	1	1	1
On screen display	Yes	Yes	Yes	Yes
19" Rack mount	Yes	Yes	Yes	Yes
Cascade (Level)	16	16	16	16
MAX. Access PCs	124	126	128	256
Manual selection	Push Button			
Hot Key	Yes	Yes	Yes	Yes
Switching confirmation	Buzzer			
Keyboard state	Saved and Restored			
Keyboard	PS/2	PS/2	PS/2	PS/2
Mouse	PS/2 and Serial (Microsoft)			PS/2
Monitor	VGA, SVGA, XGA, MutiSync			
Display Data Channel	DDC1, DDC2B, DDC2AB			
Resolution	1600 X 1200			
Bandwidth	180MHz			
Enclosure	Metal			
Storage(Celsius)	0-70			
Dimension(L)X(W)X(H) cm	44X14.7X6	44X14.7X6	44X14.7X6	44X14.7X8
Weight(g)	2400	2550	2600	3900
Power supply	DC 12 Volts, 1 A			

Federal Communications Commission Statement

This equipment generates, uses and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. This equipment has been tested and found to comply with the limits for a Class A computing device, pursuant to Part 15 of the FCC rules. Harmful interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are necessary to correct the interference.

If necessary, you should consult the place of purchase or experienced radio/television technician for additional suggestions.

CE Declaration of Conformity

Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR S LIABILITY EXCEED THE PRICE PAID FOR THE PRODUCT FROM DIRECT, INDIRECT, SPECIAL INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THE PRODUCT OR ITS DOCUMENTATION.